

EXPRESS MAIL NO.: EV064838741US

# 5

PTO/SB/01A (10-00).  
Approved for use through 10/31/2002. OMB 0651-0032. U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

## DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

**Title of Invention**COMPOSITIONS AND METHODS FOR THE THERAPY AND  
DIAGNOSIS OF BREAST CANCER

As the below named inventor(s), I/we declare that:

This declaration is directed to:

- ☐ The attached application, or  
☒ Application No. 10/076,622, filed on February 13, 2002,  
☐ as amended on \_\_\_\_\_ (if applicable);

I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;

I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including material information which became available between the filing date of the prior application and the National or PCT International filing date of the continuation-in-part application, if applicable; and

All statements made herein of my/our own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

**FULL NAME OF INVENTOR(S)**Inventor one: Raymond L. HoughtonCitizen of: USSignature: Raymond L. HoughtonDate: 3/29/02Inventor two: Paul R. SleathCitizen of: USSignature: Paul R. SleathDate: 3/29/02Inventor three: David H. PersingCitizen of: USSignature: David H. PersingDate: 4-5-02

Inventor four: \_\_\_\_\_

Citizen of: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

☐ Additional inventors are being named on \_\_\_\_\_ additional form(s) attached hereto.

Burden Hour Statement: This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is used by the public to file (and the PTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This form is estimated to take 1 minute to complete. This time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.  
Docket No. 210121.470C11  
265544

Please type a plus sign (+) inside this box

+

MAY 09 2002

EXPRESS MAIL NO. EV064838741US

PTO/SB/81 (10-00)

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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<b>ELECTION AND POWER OF ATTORNEY OR AUTHORIZATION OF AGENT</b>	<b>Application Number</b>	10/076,622
	<b>Filing Date</b>	February 13, 2002
	<b>First Named Inventor</b>	Raymond L. Houghton
	<b>Group Art Unit</b>	
	<b>Examiner Name</b>	
	<b>Attorney Docket Number</b>	210121.470C11

I hereby appoint:

☒ Practitioners at Seed IP Law Group PLLC

OR

☐ Practitioner(s) named below:



00500

PATENT TRADEMARK OFFICE

Name	Registration Number

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the Patent and Trademark Office connected therewith.

Please change the correspondence address for the above-identified application to:

☐ The above-mentioned Customer Number.

OR

<input type="checkbox"/> Firm or Individual Name					
Address					
Address					
City		State		ZIP	
Country					
Telephone		Fax			

I am the:

☐ Applicant/Inventor.

☒ Assignee of record of the entire interest. See 37 CFR 3.71.

*Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).*

☒ As assignee of record of the entire interest I/we hereby elect, under 37 C.F.R. § 3.71, to prosecute the application to the exclusion of the inventor.

**SIGNATURE of Applicant or Assignee of Record**

<b>Name</b>	Kathleen Nora McKereghan
<b>Signature</b>	
<b>Date</b>	2 May 2002

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☐ \*Total of \_\_\_\_\_ forms are submitted.

Burden Hour Statement: This form is estimated to take 3 minutes to complete. Time will vary depending upon the needs of the individual case. Any Comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

265573 [01-14-01]

COPY

EXPRESS MAIL NO. EV064838741US

## ASSIGNMENT OF UTILITY PATENT APPLICATION

MAY 09 2002

WHEREAS, we,

Name	Post Office Address	
Raymond L. Houghton	2636 242nd Place Southeast, Bothell, WA 98021	;
Paul R. Sleath	1623 Eighth Avenue West, Seattle, WA 98119	; and
David H. Persing	22401 Northeast 25th Way, Redmond, WA 98053	,

(hereinafter referred to as ASSIGNORS), having post office addresses as listed above next to our names, are the joint inventors of an invention entitled

COMPOSITIONS AND METHODS FOR THE THERAPY  
AND DIAGNOSIS OF BREAST CANCER

which is described and claimed in the specification and claims of continuation-in-part (C-I-P) Patent Application No. 10/076,622, as filed in the United States Patent and Trademark Office on February 13, 2002 ("this application") for which a patent is sought. This application derives benefit from the following application(s):

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number	Attorney Docket Number
10/007,805	12/07/01		210121.470C10
09/834,759	04/13/01		210121.470C9
09/620,405	07/20/00		210121.470C8
09/604,287	06/22/00		210121.470C7
09/590,751	06/08/00		210121.470C6
09/551,621	04/17/00		210121.470C5
09/433,826	11/03/99		210121.470C4
09/389,681	09/02/99		210121.470C3
09/339,338	06/23/99		210121.470C2
09/285,480	04/02/99		210121.470C1

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number	Attorney Docket Number
09/222,575	12/28/98		210121.470

WHEREAS, Corixa Corporation (hereinafter referred to as ASSIGNEE), a corporation of the State of Delaware having a place of business at 1124 Columbia Street, Suite 200, Seattle, Washington 98104, is desirous of acquiring the entire right, title and interest in and to said invention, this application, and in and to any Letters Patent that may be granted therefor in the United States and in any and all foreign countries;

NOW, THEREFORE, in exchange for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNORS hereby sell, assign and transfer unto said ASSIGNEE, the entire right, title and interest in and to said invention, this application and any and all Letters Patent which may be granted therefor in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from this application and said parent application(s) to which said foreign applications are entitled by virtue of international convention, treaty or otherwise; said invention, this application and all Letters Patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNORS had this assignment, transfer and sale not been made.

ASSIGNORS hereby authorize and request the Director of the Patent and Trademark Office to issue said United States Patent to ASSIGNEE, of the entire right, title and interest in and to the same, for its sole use and benefit, and for the use and behalf of its legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by us had this assignment and sale not been made.

ASSIGNORS agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign Patent on said invention,

for litigation regarding said Patent, or for the purpose of protecting title to said invention or Patent therefor.

Date 3/29/02 Raymond L. Houghton  
Raymond L. Houghton  
State of WASHINGTON)  
County of KING) ss.

I certify that I know or have satisfactory evidence that Raymond L. Houghton is the person who appeared before me, and said person acknowledged that he signed this instrument and acknowledged it to be his free and voluntary act for the uses and purposes mentioned in the instrument.

Dated March 29, 2002  
Signature of Notary Public Deirdre I. Bryan  
Printed Name DEIRDRE I. BRYAN  
My appointment expires 9/1/02

Date 3/29/02 Paul R. Sleath  
Paul R. Sleath  
State of WASHINGTON)  
County of KING) ss.

I certify that I know or have satisfactory evidence that Paul R. Sleath is the person who appeared before me, and said person acknowledged that he signed this instrument and acknowledged it to be his free and voluntary act for the uses and purposes mentioned in the instrument.

Dated March 29, 2002  
Signature of Notary Public Deirdre I. Bryan  
Printed Name DEIRDRE I. BRYAN  
My appointment expires 9/1/02

Date 4/5/02

David H. Persing  
David H. Persing

State of WASHINGTON )

County of KING )

ss.

I certify that I know or have satisfactory evidence that David H. Persing is the person who appeared before me, and said person acknowledged that he signed this instrument and acknowledged it to be his free and voluntary act for the uses and purposes mentioned in the instrument.

Dated April 5, 2002

Signature of Notary Public Deirdre I. Bryan

Printed Name DEIRDRE I. BRYAN

My appointment expires 9/1/02

265583



# results of BLAST

BLASTP 2.2.6 [Apr-09-2003]

## Reference:

Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schäffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402.

RID: 1061299431-06061-3105

## Query=

(50 letters)

**Database:** All non-redundant GenBank CDS translations+PDB+SwissProt+PIR+PRF  
1,503,231 sequences; 484,217,701 total letters

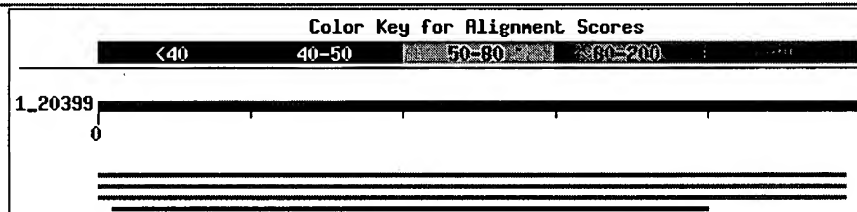
If you have any problems or questions with the results of this search please refer to the [BLAST FAQs](#)

[Taxonomy reports](#)

470C5  
4,17,2000  
C1  
4,1999

## Distribution of 4 Blast Hits on the Query Sequence

Mouse-over to show defline and scores. Click to show alignments



Sequences producing significant alignments:

Score E  
(bits) Value

gi 16506285 ref NP_443723.1	breast cancer antigen NY-BR-1 ...	94	7e-19	<input checked="" type="checkbox"/>
gi 13469731 gb AAK27326.1	breast cancer antigen NY-BR-1.1 ...	65	4e-10	
gi 21758774 dbj BAC05379.1	unnamed protein product [Homo s...	56	2e-07	<input checked="" type="checkbox"/>
gi 15678010 ref NP_274455.1	DNA polymerase III, subunits g...	31	6.1	

## Alignments

Get selected sequences

Select all

Deselect all

☐ >gi|16506285|ref|NP\_443723.1| ☒ breast cancer antigen NY-BR-1 [Homo sapiens]  
gi|13469729|gb|AAK27325.1| ☒ breast cancer antigen NY-BR-1 [Homo sapiens]  
Length = 1341

Score = 93.6 bits (231), Expect = 7e-19  
Identities = 50/50 (100%), Positives = 50/50 (100%)

Query: 1 MSPAKETSEKFTWAAKGRPRKIAWEKKETPVKTGCVARVTSNKT KVLEKG 50  
MSPAKETSEKFTWAAKGRPRKIAWEKKETPVKTGCVARVTSNKT KVLEKG  
Sbjct: 340 MSPAKETSEKFTWAAKGRPRKIAWEKKETPVKTGCVARVTSNKT KVLEKG 389

☐ >gi|13469731|gb|AAK27326.1| breast cancer antigen NY-BR-1.1 [Homo sapiens]  
Length = 1011

Score = 64.7 bits (156), Expect = 4e-10  
Identities = 36/50 (72%), Positives = 40/50 (80%)

Query: 1 MSPAKETSEKFTWAAKGRPRKIAWEKKETPVKTGCVARVTSNKT KVLEKG 50  
+ P KETSEKF+W AK R RKI WE+KET VKT CVA VT NKT+VLEKG  
Sbjct: 187 LRPTKETSEKFSWPAKERSRKITWEEKETSVKTECVAGVTPNKTEVLEKG 236

☐ >gi|21758774|dbj|BAC05379.1| ☒ unnamed protein product [Homo sapiens]  
Length = 168

Score = 55.8 bits (133), Expect = 2e-07  
Identities = 37/50 (74%), Positives = 39/50 (78%)

Query: 1 MSPAKETSEKFTWAAKGRPRKIAWEKKETPVKTGCVARVTSNKT KVLEKG 50  
M AKETSEKF W AK RPRKI WE+KET VKT CVA V NKT+VLEKG  
Sbjct: 47 MRTAKETSEKFAWPAKERPRKITWEEKETSVKTECVAGVIPNKTEVLEKG 96

☐ >gi|15678010|ref|NP\_274455.1| DNA polymerase III, subunits gamma and tau, progra  
[Neisseria meningitidis MC58]  
Length = 704

Score = 30.8 bits (68), Expect = 6.1  
Identities = 18/40 (45%), Positives = 25/40 (62%), Gaps = 1/40 (2%)

Query: 2 SPAKETSEKFTWAAKGRPRKIAWEKKETPVKTGCVARVTS 41  
SP+ +T+EK T A K +PR A E +TPV+T A + S  
Sbjct: 379 SPSAQTAEKETAACKPQPRPEA-ETAQTPVQTASAAAMPS 417

Get selected sequences

Select all

Deselect all

Database: All non-redundant GenBank CDS  
translations+PDB+SwissProt+PIR+PRF  
Posted date: Aug 18, 2003 4:29 AM  
Number of letters in database: 484,217,701  
Number of sequences in database: 1,503,231

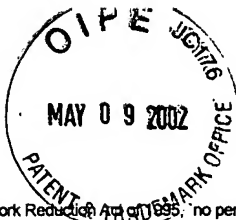
Lambda K H  
0.308 0.122 0.362

Gapped  
Lambda K H  
0.267 0.0410 0.140

Matrix: BLOSUM62  
Gap Penalties: Existence: 11, Extension: 1  
Number of Hits to DB: 46,762,076  
Number of Sequences: 1503231  
Number of extensions: 1192855  
Number of successful extensions: 1740  
Number of sequences better than 10.0: 4  
Number of HSP's better than 10.0 without gapping: 3



Number of HSP's successfully gapped in prelim test: 1  
Number of HSP's that attempted gapping in prelim test: 1725  
Number of HSP's gapped (non-prelim): 15  
length of query: 50  
length of database: 484,217,701  
effective HSP length: 26  
effective length of query: 24  
effective length of database: 445,133,695  
effective search space: 10683208680  
effective search space used: 10683208680  
T: 11  
A: 40  
X1: 16 ( 7.1 bits)  
X2: 38 (14.6 bits)  
X3: 64 (24.7 bits)  
S1: 42 (21.7 bits)  
S2: 66 (30.0 bits)



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**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Raymond L. Hughton et al.Application No./Patent No.: 10/076,622 Filed/Issue Date: February 13, 2002Entitled: COMPOSITIONS AND METHODS FOR THE THERAPY AND DIAGNOSIS OF  
BREAST CANCERCorixa Corporation

(Name of Assignee)

a

corporation(Type of Assignee, e.g., corporation, partnership,  
university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of an undivided part interest

in the patent application/patent identified above by virtue of either:

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above.  
The assignment was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the  
current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached

2. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached

3. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☐ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be  
submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records  
of the USPTO. See MPEP 302.8]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

2 May 2002  
Date

Kathleen Nora McKereghan

Typed or printed name

Kathleen Nora McKereghan  
Signature

**Senior Vice President, General Counsel  
and Secretary**

Title

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Docket No. 210121.470C11

265579 [09-14-01]